

COMPOST....

What is it?

How is it produced?

What can it do?

What can I use it for?

What is Compost?

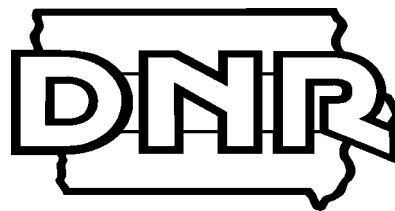
Compost is the product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat produced by natural microbial action, and stabilized to the point that it is beneficial to plant growth. Compost bears little physical resemblance to the raw material from which it originated. Compost is an organic matter source that has the unique ability to improve the chemical, physical, and biological characteristics of soils or growing media. It contains plant nutrients but is typically not characterized as a fertilizer¹.

How is Compost Produced?

Compost is produced through the activity of aerobic (oxygen requiring) microorganisms. These microbes require oxygen, moisture and food in order to grow and multiply. When these resources are maintained at optimal levels, the natural decomposition process is greatly accelerated. The microbes generate heat, water vapor, and carbon dioxide as they transform raw materials into a stable soil conditioner. Active composting is typically characterized by a high-temperature phase that sanitizes the product and allows a high rate of decomposition, followed by a lower temperature phase that allows for the product to stabilize while still decomposing at a lower rate. Compost can be produced from many feedstocks. State and Federal regulations exist to ensure that only safe and environmentally beneficial composts are marketed².

Modified from: The U.S. Composting Council's (USCC) Field Guide to Compost Use^{1,2,3}

Iowa Compost Initiative



Funded by a grant from the Iowa Department of Natural Resources

The Iowa Compost Promotional/Educational Initiative is a 2-year educational effort designed to raise the awareness and use of locally produced compost products. Funding for this CD and the entire program has been provided through a grant from the Iowa Department of Natural Resources (DNR). The project team, consisting of the DNR, R. Alexander Associates, Inc. and several Iowa commercial/municipal composters, was formed to develop and implement ideas about how to most effectively and efficiently spread the word about the many benefits; environmental, agronomic and financial, that can be realized when compost is specified and used in place of topsoil or peat moss.

Benefits of Using Compost

- Improves the soil structure, porosity, and bulk density – creating a better plant root environment
- Increases moisture infiltration and permeability of heavy soils – improving drainage and reducing erosion and runoff
- Improves moisture holding capacity of light soils – reducing water loss and nutrient leaching
- Improves and stabilizes soil pH
- Improves cation exchange capacity (CEC) of soils – improving their ability to hold nutrients for plant use
- Supplies a variety of macro and micro nutrients
- Supplies significant quantities of organic matter
- Supplies beneficial microorganisms to the soil – improving nutrient uptake and suppressing certain soil-borne diseases
- Can bind and degrade specific pollutants³

Compost Applications

Soil Incorporation

Turf establishment
Garden Bed Preparation
Crop Production
Reclamation / Remediation
Nursery Production
Sod Production
Roadside Vegetation
Manufactured Topsoil

Specifications

Bioremediation

Growing Media Component

Container/Potting
Landscape (e.g., rooftop, raised planters)
Backfill Mixes (tree and shrub planting)
Golf Course (e.g., tee, green, divot mixes)

Surface Applications

Mulch for garden beds and crop production
Erosion Control Media – *National AASHTO*

Silt/Sediment Control Berm
Turf Topdressing

Iowa Compost Producers

*Bluestem Solid Waste Agency, Cedar Rapids – 319-398-1278

*Chamness Technology, Eddyville – 641-969-5702

*City of Davenport, Davenport – 319-328-7225

*Metro Waste Authority, Des Moines – 515-323-6525

Enviro One, Dubuque – 563-557-2640

Marshalltown Composting and Tree Processing, Marshalltown – 641-754-5709

Iowa City Landfill, Iowa City – 319-356-5185

Great River Regional Waste Authority, Ft. Madison – 319-372-6140

Van Buskirk Construction, Sioux City – 712-255-8345

There are over 90 compost sites registered with the DNR. The Iowa Compost Initiative is in the process of contacting them all and identifying those who have compost available for commercial use. That information will be published when completed.

*The Iowa compost producers listed above are members of the United States Composting Council's (USCC) 'Seal of Testing Assurance' Program (STA). The STA program is a national compost testing, labeling and information disclosure program, created through consensus by the nation's leading compost scientists. It represents a significant financial and operational commitment to excellence.



**US COMPOSTING
COUNCIL**

*Seal of Testing
Assurance*

Iowa Compost Initiative Project Contacts

Ron Alexander, R. Alexander Associates, Inc. – 919-367-8350, alexassoc@earthlink.net

Al Rattie, R. Alexander Associates, Inc. – 215-258-5259, turflife@aol.com

The U.S. Composting Council's website (www.compostingcouncil.org) houses a Compost Use Section (with technical information on compost utilization, and specifications) and a directory of participating Seal of Testing Assurance Program composters.